

Claims

1. A device for analysing an interaction between target and probe molecules, comprising:
- a tubular housing having a proximal end and a distal end defining an internal flow
5 passageway, and
- a flow through support member provided within or on the housing obstructing said internal passageway,
whereby said flow through support member is provided with through going channels suitable for allowing an interaction between target and probe molecules.
- 10 2. The device according to claim 1, wherein said support member is provided with probe molecules suitable for interacting with target molecules.
- 15 3. The device according to any of claims 1 or 2, whereby the support member is provided at or near the distal end of the housing.
4. The device according to any of the claims 1 to 3, wherein said support member is chosen from the group consisting of metals, ceramic metal oxides, silicon, organic polymers and metal oxides, preferably aluminium oxide.
- 20 5. The device according to any of the claims 1 to 4, wherein said support member is optically transparent or translucent.
- 25 6. The device according to any of the claims 1 or 5, wherein said channels extend substantially coaxial with the longitudinal axis of the housing.
7. The device according to any of the claims 1 to 6, wherein the plane of the support member extends substantially perpendicular to the longitudinal axis of the housing.
- 30 8. The device according to any of the claims 1 to 7, wherein the support member spans the bore of the housing.

9. An apparatus for analysing an interaction between target and probe molecules, comprising:

- 5 (a) a handling station comprising a handling device, for aspirating and/or dispensing fluid medium, said handling device comprising a device according to any of the claims 1 to 8, mounted thereto,
- (b) a means for transporting said handling station to a plurality of sections,
- (c) at least one incubation section comprising an incubation device, for administering a fluid sample comprising target molecules to the support member, incubating the support member comprising the fluid sample and/or washing the support member,
10 and
- (d) an analysis section comprising a detection device for detecting an interaction between target and probe molecules, thereby analysing an interaction.

10. Method for the analysis of an interaction between target and probe molecules, comprising:

- 15 (a) administering a sample fluid possibly comprising target molecules to the support member of the device according to any of the claims 1 to 8, or the apparatus of claim 9,
- (b) entering the sample fluid into the channels of the support member by capillary forces
20 or by applying a pressure difference over the support member, whereby the target molecules are contacted with the probe molecules,
- (c) possibly generating an alternating flow through the support member whereby at least part of the sample is forced to pass through the channels from the distal side of the support member to the proximal side of the support member and back at least one
25 time, under conditions enabling the interaction between target and probe molecules, and
- (d) analysing an interaction between target and probe molecules.